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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/573,107	03/23/2006	Josef Artelsmair	ARTELSMAIR 5 PCT	4453

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COLLARD & ROE, P.C.
1077 NORTHERN BOULEVARD
ROSLYN, NY 11576

EXAMINER	
RALIS, STEPHEN J	
ART UNIT	PAPER NUMBER
3742	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/573,107	ARTELSMAIR, JOSEF	
	Examiner	Art Unit	
	STEPHEN J. RALIS	3742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 June 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *3-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *3-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *23 March 2006* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Applicant is respectfully requested to provide a location within the disclosure to support any further amendments to the claims due to when filing an amendment an applicant should show support in the original disclosure for new or amended claims. See MPEP § 714.02 and § 2163.06 ("Applicant should specifically point out the support for any amendments made to the disclosure.").

Continued Examination Under 37 CFR 1.114

3. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 26 June 2009 has been entered.

Response to Amendment/Arguments

4. Applicant's arguments with respect to claims 3-21 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 10, 11 and 18-21 are rejected under 35 U.S.C. 102(b) as being anticipated by Hokaku et al. (Japanese Publication No. JP 55014150 A).

Hokaku et al. discloses a method for controlling a welding process using a melting welding wire (consumptive electrode 209) comprising the steps of: (a) igniting an electric arc (spark generated); (b) subsequently conducting welding, the welding being adjusted on the basis of several different welding parameters (current sensed and electrode length) and controlled by at least one of a control device (control box 400) and a welding current source (200); and (c) carrying out at least one mechanical adjustment process during the welding to determine the position of the welding wire (electrode supply means 201 being controlled to send out or stop consumptive electrode 209; English translation Abstract) using the welding wire (consumptive electrode 209) as a sensor (column 16, lines 11-53); wherein, during the at least one mechanical adjustment process (electrode supply means 201 being controlled to send out or stop consumptive electrode 209; English translation Abstract), the welding torch is maintained in position (reference position) and the welding parameters are controlled in a manner that no or only little welding wire material melting is effected (English translation Abstract).

With respect to the limitations of "the welding parameters are controlled in a manner that no or only little welding wire material melting is effected", Hokaku et al. disclose the mechanical adjusting process (sending out or stopping the electrode 209 toward the workpiece) satisfying the welding voltage and welding current during the process which would reduce the amount of welding wire material that is melting. Therefore, Hokaku et al. fully meets "during the at least one mechanical adjustment process, the welding parameters are controlled in a manner that no or only little welding wire material melting is effected" given its broadest reasonable interpretation.

With respect to the limitations of claims 10 and 11, Hokaku et al. disclose the process as being an automated welding mode process which would include a trigger signal and settings selected by a user as well as default values.

With respect to the limitations of claims 18-20, Hokaku et al. disclose the process as being an automated welding mode process which would include motion at the beginning, middle and end of the automated welding mode process as disclosed as well as the robot (fixture 108) being controlled by the control box (400).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

9. Claims 3-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa et al. (JP 11058012 A) in view of Hokaku et al. (Japanese Publication No. JP 55014150 A).

Nishikawa et al. disclose a method of welding wherein several welding parameters, namely current and voltage associated with a wire-to-workpiece contact during the welding process, are used to calculate wire stick-out, thus using the wire as a sensor (English abstract and the discussion at paragraph 20 of the machine generated English translation; see Figures 5 and 6). This sensed wire stick-out is used to adjust torch height during the welding procedure.

Nishikawa et al. disclose all of the limitations of the claimed invention, as previously set forth, except for in specifying that the mechanical adjustment "determines the position of the welding wire" and the welding torch being maintained in position and the welding parameters being controlled in a manner that no or only little welding wire material melting is effected with the process being carried out during the welding process as the wire is being used as the sensor.

However, a mechanical adjustment determining the position of the welding wire and the welding torch being maintained in position and the welding parameters being controlled in a manner that no or only little welding wire material melting is effected with the process being carried out during the welding process as the wire is being used as the sensor is known in the art. Hokaku et al., for example, teach a mechanical adjustment process (electrode supply means 201 being controlled to send out or stop consumptive electrode 209; English translation Abstract) determining the position of the welding wire (length of electrode 209 via current sensor 207 in conjunction with control box 400) using the welding wire (consumptive electrode 209) as a sensor (column 16, lines 11-53) and the mechanical adjustment process (electrode supply means 201 being controlled to send out or stop consumptive electrode 209; English translation Abstract) with the welding torch (109) being maintained in position (reference position) and the welding parameters are controlled in a manner that no or only little welding wire material melting is effected (English translation Abstract). Hokaku et al. further teach the advantage of such a configuration provides a means to adjust the length of the protruding length consumable electrode and keep the electrode length constant, thereby increasing a desired welding finishing and quality. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Nishikawa et al. with the sensing and moving of the wire position during welding processing with the welding torch position being maintained of Hokaku et al. in order to provide a means to adjust the length of the protruding length consumable electrode and keep the electrode length constant, thereby increasing a desired welding finishing and quality.

10. Claims 3-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mita et al. (EP 774317 A1 – Applicant Admitted Prior Art or APAA) in view of Hokaku et al. (Japanese Publication No. JP 55014150 A).

Mita et al. (APAA) disclose a method for controlling a welding process using a melting welding wire as set forth in the page 1 of the disclosure of the instant application.

Mita et al. (APAA) disclose all of the limitations of the claimed invention, as previously set forth, except for in specifying that the mechanical adjustment "determines the position of the welding wire" and the welding torch being maintained in position and the welding parameters being controlled in a manner that no or only little welding wire material melting is effected with the process being carried out during the welding process as the wire is being used as the sensor.

However, a mechanical adjustment determining the position of the welding wire and the welding torch being maintained in position and the welding parameters being controlled in a manner that no or only little welding wire material melting is effected with the process being carried out during the welding process as the wire is being used as the sensor is known in the art. Hokaku et al., for example, teach a mechanical adjustment process (electrode supply means 201 being controlled to send out or stop consumptive electrode 209; English translation Abstract) determining the position of the welding wire (length of electrode 209 via current sensor 207 in conjunction with control box 400) using the welding wire (consumptive electrode 209) as a sensor (column 16,

lines 11-53) and the mechanical adjustment process (electrode supply means 201 being controlled to send out or stop consumptive electrode 209; English translation Abstract) with the welding torch (109) being maintained in position (reference position) and the welding parameters are controlled in a manner that no or only little welding wire material melting is effected (English translation Abstract). Hokaku et al. further teach the advantage of such a configuration provides a means to adjust the length of the protruding length consumable electrode and keep the electrode length constant, thereby increasing a desired welding finishing and quality. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Mita et al. (APAA) with the sensing and moving of the wire position during welding processing with the welding torch position being maintained of Hokaku et al. in order to provide a means to adjust the length of the protruding length consumable electrode and keep the electrode length constant, thereby increasing a desired welding finishing and quality.

11. Claims 3-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nishikawa et al. (JP 11058012 A) in view of Hsu et al. (U.S. Patent No. 2005/0006363).

Nishikawa et al. disclose a method of welding wherein several welding parameters, namely current and voltage associated with a wire-to-workpiece contact during the welding process, are used to calculate wire stick-out, thus using the wire as a sensor (English abstract and the discussion at paragraph 20 of the machine generated English translation; see Figures 5 and 6). This sensed wire stick-out is used to adjust torch height during the welding procedure.

Nishikawa et al. disclose all of the limitations of the claimed invention, as previously set forth, except for in specifying that the mechanical adjustment "determines the position of the welding wire" and the welding torch being maintained in position and the welding parameters being controlled in a manner that no or only little welding wire material melting is effected with the process being carried out during the welding process as the wire is being used as the sensor.

However, a mechanical adjustment determining the position of the welding wire and the welding torch being maintained in position and the welding parameters being controlled in a manner that no or only little welding wire material melting is effected with the process being carried out during the welding process as the wire is being used as the sensor is known in the art. Hsu et al., for example, teach utilizing arc voltage measurement to determine one or more parameters of the welding wire (Abstract; pages 3-4, paragraphs 15, 20; page 7, paragraph 43). Hsu et al. further teach the advantage of such a configuration provides a means to minimize the affects of wire wobble, thereby improving the weld bead quality during the welding process (whole document).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Nishikawa et al. with the sensing and moving of the wire position during welding processing with the welding torch position being maintained of Hsu et al. in order to provide a means to minimize the affects of wire wobble, thereby improving the weld bead quality during the welding process. Furthermore, the manner of enhancing a particular method (a method for controlling a welding process using melting

welding wire and a welding torch) was made part of the ordinary capabilities of one skilled in the art based upon the teaching of such improvement in Hsu et al. Accordingly, one of ordinary skill in the art would have been capable of applying this known "improvement" technique in the same manner to the prior art method for controlling a welding process using melting welding wire and a welding torch of Nishikawa et al. and the results would have been predictable to one of ordinary skill in the art, namely, one skilled in the art would have readily recognized that utilizing the sensing and moving of the wire position during welding processing with the welding torch position being maintained in Nishikawa et al. would positively minimize the affects of wire wobble, thereby improving the weld bead quality during the welding process.

12. Claims 3-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mita et al. (EP 774317 A1 – Applicant Admitted Prior Art or APAA) in view of Hsu et al. (U.S. Patent No. 2005/0006363).

Mita et al. (APAA) disclose a method for controlling a welding process using a melting welding wire as set forth in the page 1 of the disclosure of the instant application.

Mita et al. (APAA) disclose all of the limitations of the claimed invention, as previously set forth, except for in specifying that the mechanical adjustment "determines the position of the welding wire" and the welding torch being maintained in position and the welding parameters being controlled in a manner that no or only little welding wire

material melting is effected with the process being carried out during the welding process as the wire is being used as the sensor.

However, a mechanical adjustment determining the position of the welding wire and the welding torch being maintained in position and the welding parameters being controlled in a manner that no or only little welding wire material melting is effected with the process being carried out during the welding process as the wire is being used as the sensor is known in the art. Hsu et al., for example, teach utilizing arc voltage measurement to determine one or more parameters of the welding wire (Abstract; pages 3-4, paragraphs 15, 20; page 7, paragraph 43). Hsu et al. further teach the advantage of such a configuration provides a means to minimize the affects of wire wobble, thereby improving the weld bead quality during the welding process (whole document).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify Mita et al. (APAA) with the sensing and moving of the wire position during welding processing with the welding torch position being maintained of Hsu et al. in order to provide a means to minimize the affects of wire wobble, thereby improving the weld bead quality during the welding process. Furthermore, the manner of enhancing a particular method (a method for controlling a welding process using melting welding wire and a welding torch) was made part of the ordinary capabilities of one skilled in the art based upon the teaching of such improvement in Hsu et al. Accordingly, one of ordinary skill in the art would have been capable of applying this known "improvement" technique in the same manner to the prior art method for

controlling a welding process using melting welding wire and a welding torch of Mita et al. (APAA) and the results would have been predictable to one of ordinary skill in the art, namely, one skilled in the art would have readily recognized that utilizing the sensing and moving of the wire position during welding processing with the welding torch position being maintained in Mita et al. (APAA) would positively minimize the affects of wire wobble, thereby improving the weld bead quality during the welding process.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to STEPHEN J. RALIS whose telephone number is (571)272-6227. The examiner can normally be reached on Monday - Friday, 8:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu Hoang can be reached on 571-272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Stephen J Ralis/
Primary Examiner, Art Unit 3742

Stephen J Ralis
Primary Examiner
Art Unit 3742

SJR
September 3, 2009